

ChE 3820: Unit Operations Laboratory
 Department of Chemical Engineering and Materials Science
 Fall 2009
 Report Grading Rubric

Criteria	Exemplary	Proficient	Marginal	Unacceptable
Introduction	Clearly and concisely presents the objectives of the work and the methods used.	Same as exemplary, but some details may be missing	Present, but vague or missing key details.	Missing, plagiarized, and/or contains significant grammatical errors.
Safety Assessment	Hazards are clearly identified and MSDS are included	Most hazards are identified, MSDS are included	Only trivial hazards are identified or MSDS are missing.	No hazards are identified. MSDS missing.
Figures	Legible when printed in black and white with appropriate symbols to identify each data set. A minimum of 12pt font is used for all labels. All axis clearly labeled with units. Equations of correct order are fit to data, and fits produce physically realistic results.	Legible when printed in black and white. All axis labels are present and have units. Font sizes < 12pt. Excel's auto fitting feature may be present, showing unphysical results.	Color figure with poor contrast, or color figure printed in black and white. Font size less than 12pt is used. Equations of wrong order used to fit data. Curve fit yields unphysical behavior.	Missing axis labels and/or units. Color figure printed in black and white. No attempt made to fit data.
Data	Exhibits high precision and excellent quantitative agreement with available theories and/or data from the literature. Appropriate control experiments have been performed.	Exhibits good agreement with available theories and/or literature data. Qualitatively agrees with expected behavior, but minor deviations may be present. Some control experiments have been performed	Exhibits good qualitative agreement with literature data, but precision is poor. Limited control experiments. Lacking enough data to perform a meaningful error analysis.	Fails to show correct qualitative behavior, low precision, and/or missing significant items. No comparison with literature data. No control experiments.
Analysis	Necessary data manipulations and calculations are all performed correctly. All statistical uncertainties are determined and propagated through calculations.	All calculations are performed correctly. Statistical uncertainties are calculated, but not propagated through all calculations.	Some calculations are performed correctly. Any errors in calculation are minor. Error analysis is limited.	No error analysis. Significant calculation errors; sign reversal, wrong equation, unit conversion errors.
Results and Discussion	Data are presented as graphs or short tables. Extensive discussion of results. Appropriate conclusions are drawn from the data. Deviations from expected trends are explained convincingly. Relevant equations are presented and discussed.	Data are presented as graphs or short tables. Significant discussion of results. Relevant equations are presented and discussed.	Data are presented as large tables. Limited or no graphs. Limited discussion of results. Little insight provided by the authors. Some equations are presented and discussed.	No graphs or tables presented. Discussion of results is weak or non-existent. No equations are presented, or equations have little relationship to the data presented.

ChE 3820: Measurements Laboratory
 Department of Chemical Engineering and Materials Science
 Fall 2009
 Report Grading Rubric

Criteria	Exemplary	Proficient	Marginal	Unacceptable
Citations	All information taken from external sources, data, equations, diagrams, etc. references the original source.	Most information taken from external sources cites the original source.	Citations of the lab manual. Failure to cite the source of data from the literature.	No references to original sources, or citations are completely random.
Appendix	All data are presented as MS Excel spreadsheets, clearly labeled. Sample calculations are shown for each major calculation, complete with units. Sample calculations have been performed in MathCAD.	All data are presented as MS Excel spreadsheets, clearly labeled. Sample calculations are shown for most major calculations. Units are present in most calculations. Calculations have been performed by hand.	Most data are shown as MS Excel spreadsheets. Some labels are missing. Limited sample calculations.	No sample calculations or sample calculations have significant errors. Missing data. Data presented as scribbles on paper.
Composition	Report is neatly typed in the correct format. 1" margins top, bottom, left and right. No grammatical, typographical or spelling errors are present. Text is clear and concise. Text does not contain: I, you, we, me. All pages are numbered.	Neatly typed in the correct format, including margins. Less than 3 grammatical, typographical or spelling errors. Text is clear. An occasional poorly worded sentence. All pages are numbered.	Typed. Deviates from the specified report format. Text is difficult to understand and lacks coherence. Significant use of I, you, me or we.	Typed. Deviates from the specified report format. Not proofread and contains numerous grammatical, typographical or spelling errors. Text is incoherent.